

ABSTRACT OF THE DISCLOSURE

A method of enhancing the permeability of a biological membrane, including the skin or mucosa of an animal or the outer layer of a plant to a permeant is described utilizing microporation of selected depth and optionally one or more of sonic, electromagnetic, mechanical and thermal energy and a chemical enhancer. Microporation is accomplished to form a micropore of selected depth in the biological membrane and the porated site is contacted with the permeant. Additional permeation enhancement measures may be applied to the site to enhance both the flux rate of the permeant into the organism through the micropores as well as into targeted tissues within the organism.